

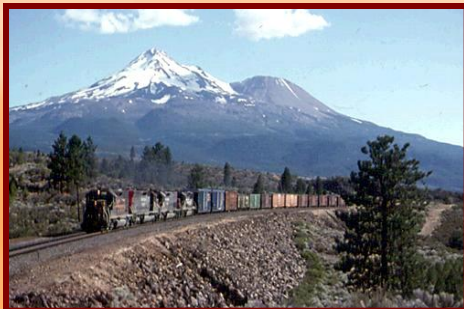


U.S. Department of Energy Environmental Management



***DOE - TEC Meeting
Atlanta, GA
January 31, 2007***

EM Program Update



**William F. Spurgeon
EM Office of Transportation**

The EM Program is the world's largest cleanup program



- **114 Sites**
- **31 States**
- **2,000,000 Acres**

Scope includes remediation, processing and transportation of approximately:

- **25 tons of plutonium**
- **108 tons of plutonium residues**
- **88 million gallons of radioactive liquid waste**
- **2,500 tons of spent nuclear fuel**
- **137,000 cubic meters of transuranic waste**
- **1.3 million cubic meters of low-level waste**
- **700,000 metric tons of depleted uranium**



EM Activities Include. . .



- **Nuclear materials disposition**



- **Radioactive waste disposal**



- **Facilities/sites cleanup and closure**



Recent EM Program Accomplishments and Milestones

- **Fernald, Columbus and Ashtabula closure celebrations held on January 19, 2007.**
- **WIPP received a permit modification for Remote Handled (RH) Transuranic waste, which became effective in November 2006, enabling it to receive this high hazard waste stream from many sites. The first shipment was received from Idaho on January 23, 2007**
- **Oak Ridge - Physical cleanup of Melton Valley is substantially complete.**
- **Hanford - All spent nuclear fuel has been removed from the K Basins.**
- **Paducah - Completed the removal of all waste from the 17 outside materials storage areas.**



Recent EM Program Accomplishments and Milestones (Continued)

- **Closure of T Area at the Savannah River Site is the site's first area closure and represents completion of a major industrial portion of the site.**
- **EM mission completed at Kansas City Plant and Lawrence Livermore National Laboratory (Main Site)**
- **Physical cleanup of EM's closure scope at Mound completed; additional work at a former landfill will be completed this year.**





FY-2006 Program Accomplishments

Rocky Flats and Fernald

Before and After

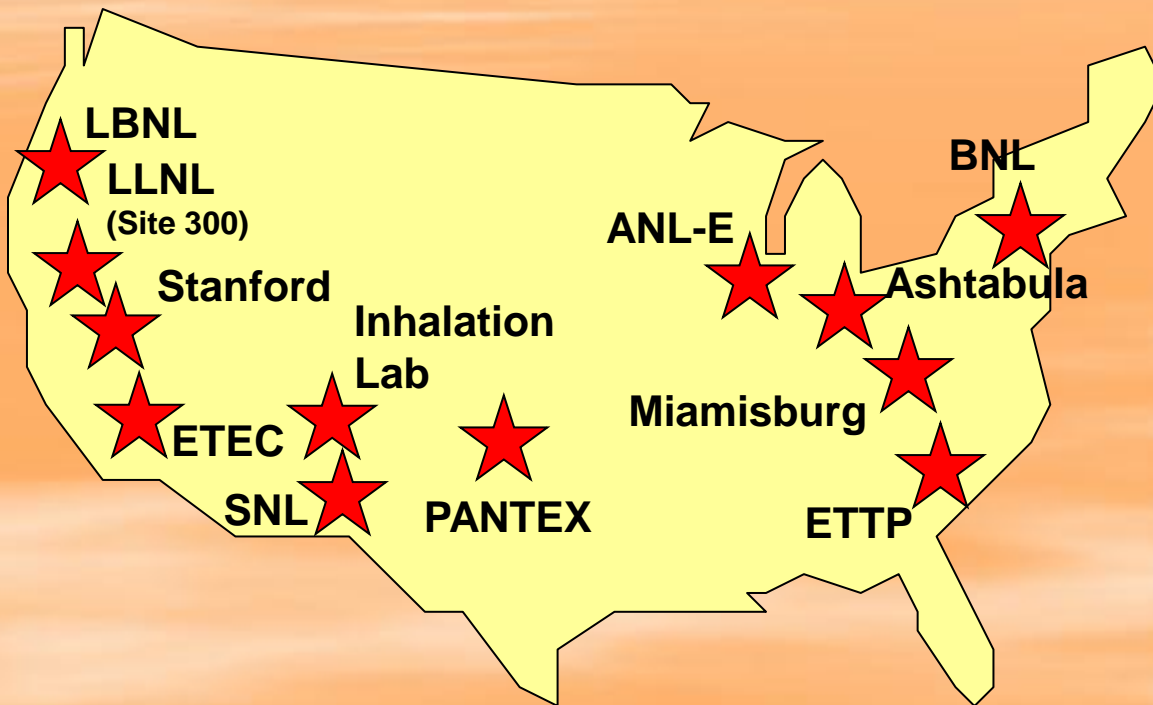
Rocky Flats



Fernald



**...and as many as 12 additional sites/areas will
be cleaned up between 2007-2009**



2007	
Ashtabula	OH
Lawrence Berkley National Laboratory	CA
2008	
Lawrence Livermore National Laboratory – Site 300	CA
Miamisburg Environmental Management Project	OH
PANTEX Plant	TX
Inhalation Toxicology Laboratory	NM
Sandia National Laboratory	NM
2009	
Brookhaven National Laboratory	NY
Argonne National Laboratory-East	IL
Stanford Linear Accelerator	CA
Energy Technology Engineering Center	CA
East Tennessee Technology Park	TN



■ TRU	941
■ NM	256
■ MLLW	1,877
■ LLW	14,828
■ DUF ₆	3,956
Total	22,103

■ TRU	1,150
■ NM	20
■ MLLW	720
■ LLW	11,770
■ DUF ₆	400
Total	14,060

EM Transuranic Waste Shipments



5,377

**Total shipments
as of 1/22/07**

TRU Shipments

	FY 06	FY07
• INL =	833	203
• LANL =	105	26
• SRS =	115	42
• RL =	67	19
• NTS=	<u>8</u>	<u>0</u>
•Total	1128	290 (01/22)

How Do We Measure Our Performance?

- **Key Performance Metric: Transportation Incidents/10,000 Shipments**
- **EM transportation incident criteria:**
 - Any release of an EM material during transportation;
 - Any injury (either outpatient, first aide, minor injury, hospitalization, or fatality);
 - Any damage to the transport vehicle, package, or property;
 - Any fines; regulatory violations; or deviations from accepted protocols, orders, or procedures;
 - Any package damage or load securement problem;
 - Any route deviation (for Transcom monitored shipments); security breach; or activation of emergency personnel;
 - Any deviation that triggers a Level VI CVSA inspection;
 - Any road closure or public evacuation;
 - Any local or national media coverage.





How well are we Performing?

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- **FY2006 Transportation Incidents:**

- In FY'06, EM had 22 transportation incidents (27 events).
- FY'06 Incident Rate = $22/14000 = 15.7$ Incidents/10,000 Shipments
- No DOT Reportables

- **FY 2007 Transportation Incidents (First Quarter):**

- Thus far in FY'07, EM has had 1 transportation incident (3 events).

- **Incident Rate History:**

(Incidents/10,000 Shipments)

2004	11.5
2005	6.8
2006	15.7
2007	*

- **Management Review of FY 2006 Transportation Events**

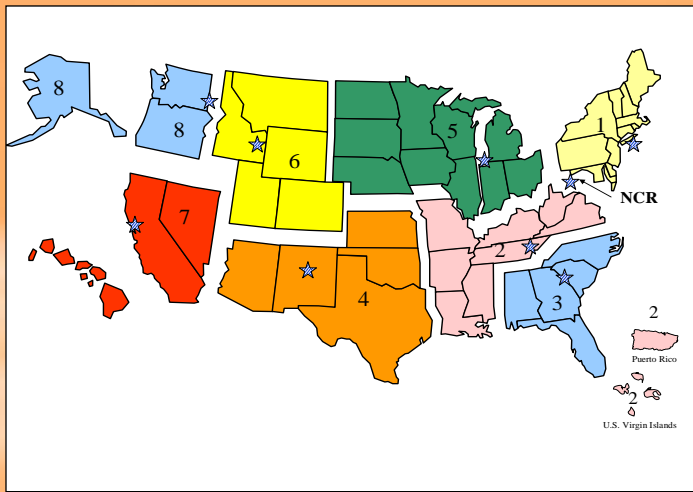
- January 30-31 Meeting with Field Elements and Stakeholder Reps
- Review Lessons Learned
- Review of Criteria for Reporting EM Transportation Events



Transportation Emergency Preparedness and Transportation Outreach



<http://web.em.doe.gov/otem/program.html>



➤ Transportation Emergency Preparedness Program (TEPP)

- Planning, training, and technical assistance

➤ Transportation Outreach

- Increased dedication to working closely with states and tribes to ensure open and honest dialogue, understanding, and cooperation
- Transportation Outreach activities in partnership with Transcaer® including:
 - Commodity Flow Studies
 - Transcaer Workshops and Drills



Update of DOE Manual 460.2-1

- Manual Review Topic Group established
 - Worked thru conference calls
- Changes
 - Security section
 - Input from Security Topic Group
 - TRU Waste shipments
 - Clarification/update of information relative to OCRWM shipments
- Informal Coordination with DOE field sites completed
- Revision is working through DOE's Internal Directives Process
- Final in April 2007



DOE/UNLVRF Truck Tracking Study

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■ Incident Prevention

- Improving On-board Driver Awareness and Monitoring
- Performance Monitoring and Trend Analysis for Early Warning Signs of Trouble
- Location Monitoring and Analysis for Early Warning Signs of Trouble

■ Incident Management

- Incident Response and Preplanning
- Accident Reconstruction

■ Demonstrations

- January 17, Columbia, South Carolina
- February 21, Las Vegas, Nevada



GTCC LLW Disposition



- **Greater than Class C (GTCC) Low Level Waste (LLW) includes sealed sources, activated metals from nuclear utilities and other wastes. DOE is also considering including GTCC-like wastes, e.g. non-defense TRU and wastes without a confirmed path to disposal. An inventory analysis is in progress to determine detailed quantity estimates. It is expected that the total inventory will be in the range of about 5,000 cubic meters.**

- **Report to Congress delivered August 1, 2006**
 - required by the Energy Policy Act of 2005

- **EIS Schedule:**
 - Issue Notice of Intent (NOI) – Spring 2007
 - Plan public scoping meetings – Summer 2007
 - Issue Draft EIS – January 2008
 - Issue Final EIS – October 2008
 - Issue Report to Congress Describing GTCC Disposal Alternatives – October 2008
 - Issue Record of Decision (ROD) – Following Congressional Action
 - Implement ROD

Transporting Uranium Oxide from Portsmouth, OH and Paducah, KY for Disposal



- **DUF6 , a co-product of the uranium enrichment process, was placed in steel cylinders that accumulated over time in site storage yards at Portsmouth and Paducah.**
- **An Environmental Impact Statement (EIS) was conducted for each facility.**
- **The preferred option, selected in the Record of Decision (ROD) for both Portsmouth and Paducah, is to construct and operate facilities to convert depleted uranium hexafluoride (DUF6) into a more stable chemical form (uranium oxide) for beneficial reuse and/or disposal.**



Transporting Uranium Oxide from Portsmouth, OH and Paducah, KY for Disposal

- Both Portsmouth and Paducah Sites are constructing DUF6 facilities that will convert about 700,000 metric tons uranium (MTU) contained in ~58,000 steel cylinders--typical cylinder is 48" diameter.
- Physical construction of the two conversion facilities is scheduled for completion in Fall 2007.
- Operations are expected to begin by June 2008



Portsmouth Conversion Facility, October 2006



Paducah Conversion Facility, October 2006



Transporting Uranium Oxide from Portsmouth, OH and Paducah, KY for Disposal

Transportation Plan

- **A Transportation Plan is being developed in accordance with DOE's Radioactive Material Transportation Practices Manual (DOE M 460.2-1). A draft Plan is expected by the end of March 2007.**
- **Cylinders currently used to store DUF_6 will be used to ship uranium oxide. These cylinders are DOT compliant.**
- **Covered gondola railcars used to successfully transport waste from the Fernald Closure Project will be utilized to transport uranium oxide cylinders.**



Transporting Uranium Oxide from Portsmouth, OH and Paducah, KY for Disposal

- **First waste shipment anticipated in August 2008.**
- **Disposal options include Nevada Test Site (NTS) and Energy Solutions in Utah (formerly Envirocare of Utah)**
- **Group of 5 or 6 gondola railcars (each containing up to 6 cylinders) will be shipped from each site on a weekly basis. A cylinder of uranium oxide will weigh 14 to 18 tons**



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